



# EM Corporate Project Team

## Integrated/Risk-Driven Disposition of SNF

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National SNF Strategy Session

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# History of EM Reform Initiative

## EM Corporate Projects

-  Secretary of Energy concerned with the lack of focus of the Environmental Management (EM) program and the uncontrolled cost and schedule required to complete the EM cleanup mission
-  Assistant Secretary Roberson (EM-1) initiated a top-to-bottom review of the EM program
-  *Top to Bottom Review* (Feb 2002) concluded significant opportunities exist to accelerate risk reduction and better focus resources on cleanup
  -  Identified key areas of weakness and twelve issues
-  EM-1 announced development of integrated project teams to address these issues (June 2002)
  -  “Managing SNF to Reduce Risk”
-  Other recent reviews of SNF management activities
  -  Independent Assessment of DOE Baseline for Dealing with DOE-Managed SNF (Williams Group; Jan 2002 )
  -  Strategic Assessment of Current SNF Baselines (EM-20; June 2002)

# DOE SNF Challenge is Complex

- ✍ ~\$12B over the next 35 years (\$8-11B is EM's mortgage)
- ✍ Activities involve four program offices, six major sites, various other facilities and diverse contracts
- ✍ Significant interdependencies, both internal and external to DOE
  - ✍ Inter-program and inter-site
  - ✍ International
  - ✍ Commercial utilities
- ✍ Complex political, regulatory and statutory drivers
- ✍ Despite the significant amount of analysis and review, there has been little integration or leadership
- ✍ We've made it harder than it is; we have the ability and responsibility to simplify it

# EM SNF Corporate Project Team (CPT)

## Status

|                     |   |
|---------------------|---|
| July 2002           | Project Manager selected  |
| Aug 2002            | Corporate Project Team recruited  |
| Sept 2002           | Preliminary project planning; site reviews initiated                            |
| <i>Oct 17, 2002</i> | <i>CD-0, Approval of Mission Need, provided by Acquisition Executive (EM-1)</i> |
| Currently           | Development of CPT conceptual design; subproject planning                       |
| Nov 2002            | Request approval of CD-1, Approve System Requirements and Alternatives          |

# EM SNF CPT

Advisor: Keith Klein (RL)

Project Manager: Christine Gelles (EM- HQ)

Team:

- Mark Arenaz (EM- ID - Nat'l Program)
- Eric Cohen (EH NEPA)
- Pete Dirkmaat (EM-ID)
- Howard Eckert (EM-HQ)
- Mark French (EM-RL)
- Dinesh Gupta (EM-HQ)
- Paul Harrington (RW-YMP)
- Jeanine Hoey (EM-NETL)
- Bob Lange (NE-HQ)
- Randy Ponik (EM-SR)
- Mark Senderling (RW-HQ)

# EM SNF CPT -- Summary of CD-0 Package

- ✍ Mission Need Statement
- ✍ Acquisition Strategy
  - ✍ Project Overview
  - ✍ Preliminary Project Schedule
- ✍ Preliminary High-Level Functions
- ✍ NEPA Strategy
- ✍ Project Charter
- ✍ Project Organization
- ✍ Resource Implications

# EM SNF CPT -- Mission Need Statement

## Challenge Statement

- ✍ EM program for SNF management and disposition is a collection of individual site strategies... Sites' strategies for storage and preparation of the SNF differ widely... Due to these inconsistencies, EM plans for transfer of the SNF to the repository are not fully aligned with the baseline plans for construction and operation of the repository.
- ✍ Through development of accelerated cleanup plans, EM sites are revising their baselines and becoming further disintegrated.
- ✍ Although it appears these site-specific strategies are responsive to the major environmental risks associated with SNF storage, they do not appear to be fully aligned with the national priorities identified in EM's reform initiative.
- ✍ RW is proceeding with repository planning based on outdated and unoptimized EM baselines.
- ✍ *An integrated, corporate strategy for SNF disposition is required to address these programmatic risks and to support DOE-wide improvements in the management and disposition of SNF.*

# EM SNF CPT -- Mission Need Statement

## Solution Statement

- ✍ The EM Integrated/Risk-Driven SNF Disposition Project will identify, plan and implement activities that will improve EM's management of SNF management by:
  - ✍ Clearly identifying EM's SNF mission
  - ✍ Reviewing and comparing EM sites' SNF baselines to define the inventory within EM's responsibilities (current and projected), identify programmatic assumptions and drivers, and ensure full definition of scope required to disposition SNF,
  - ✍ Identifying baseline changes necessary to achieve consistency with national priorities, optimized risk reduction, and project acceleration opportunities,
  - ✍ Integrating EM's SNF activities throughout EM sites with the programmatic baselines of RW and the Office of Nuclear Energy, Science and Technology (NE),
  - ✍ Identifying opportunities for complex-wide acceleration of SNF disposition, and the impact on the RW and NE programs,
  - ✍ Refining the scope of EM's future SNF mission by identifying and -- where appropriate -- proposing changes to the focus and functional alignment of SNF activities to adequately carryout DOE SNF obligations.



# EM SNF CPT -- Mission Need Statement

## Work Scope and Deliverables

- ✍ Development of corporate strategy for EM's SNF management and disposition
  - ✍ Risk-informed
  - ✍ Employ a business-model for the identification and selection of programmatic options
  - ✍ Based upon consistent principles -- environmental and programmatic risk reduction and project acceleration
  - ✍ Address EM's responsibilities for:
    - ✍ Characterization, stabilization (as needed) and interim safe storage of SNF,
    - ✍ Acceptance and management of future SNF,
    - ✍ Preparation of SNF for acceptance at the monitored geologic repository
- ✍ Corporate strategy will define and EM path forward for optimizing the preparation and transfer of SNF to the repository and formalize the integration of this path forward with RW

# EM SNF CPT -- Mission Need Statement

## Major Deliverables

- ✍ Formal project management tools to address and manage programmatic risks, including
  - ✍ An integrated map of the work breakdown structures for SNF activities complex-wide
  - ✍ An integrated project schedule for SNF activities complex-wide
  - ✍ An integrated basis of estimate (BOE), for the purposes of cost/benefit analyses
  - ✍ An approved Project Execution Plan addressing implementation and management of the integrated corporate strategy
- ✍ Formal documentation of the integrated SNF corporate strategy – via an EM or DOE Directive – including consistent guidance and programmatic assumptions
- ✍ Programmatic risk and cost uncertainty analysis of the integrated corporate strategy, and risk management plans
- ✍ Options analysis for the reconfiguration of SNF interim management responsibilities between Departmental organizations

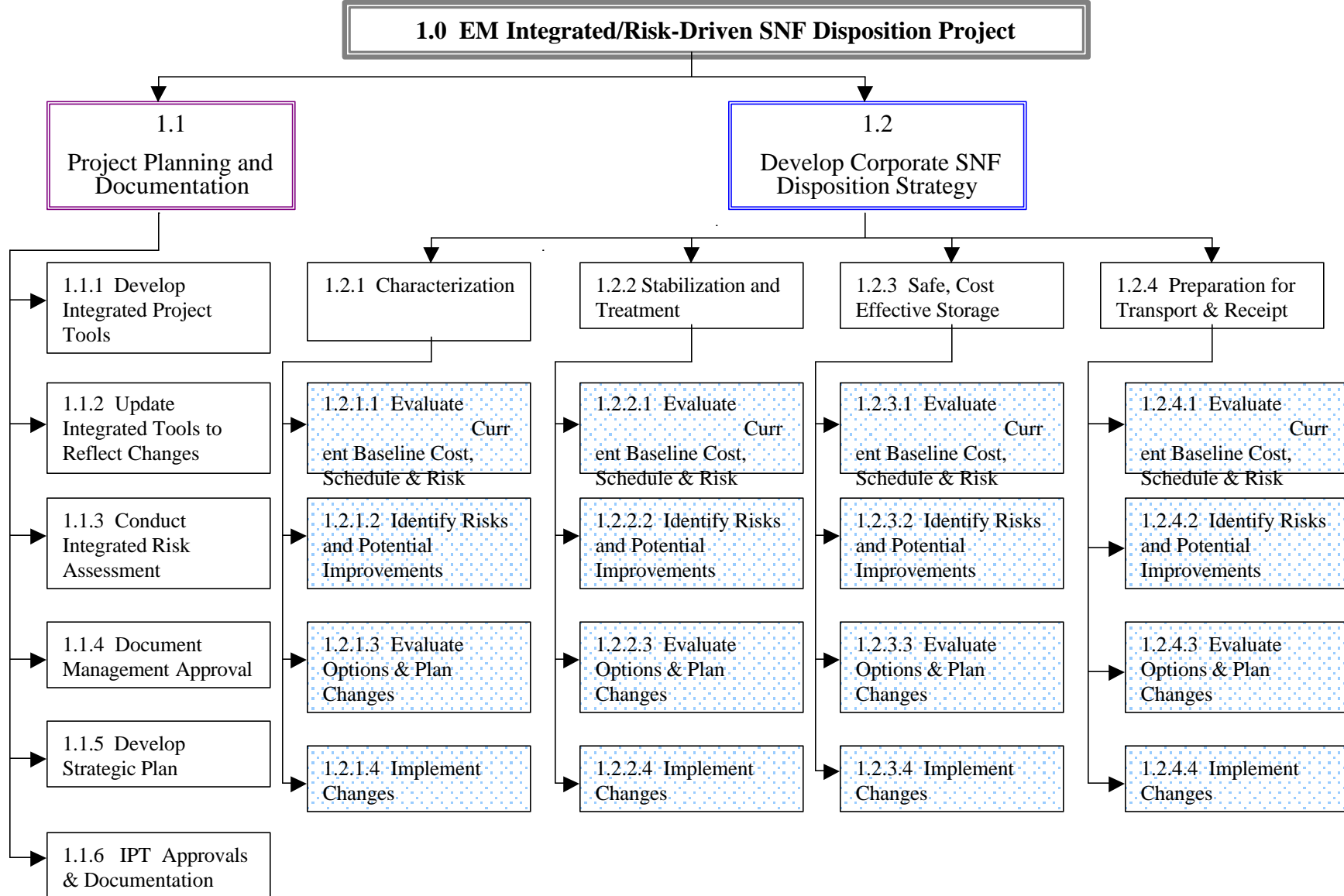
# EM SNF CPT -- Mission Need Statement

## Project End State

The end state of the project will be achieved when:

- ✍ An integrated corporate strategy for SNF disposition is delivered and accepted by EM-1
- ✍ Baseline changes implementing needed changes to current SNF baselines are developed and approved at EM sites
- ✍ An integrated project schedule is developed and used to guide EM SNF activities and to integrate EM, NE and RW SNF activities
- ✍ A strategic plan for the future transition and management of DOE SNF is developed and submitted to the Secretary of Energy.

**Figure 2.1 High-Level Functions and Requirements**



EM Integrated/Risk-Driven SNF  
Disposition Project

**Enclosure AS-1: Project Overview**  
**EM Corporate Project: Integrated/Risk-Driven Disposition of Spent Nuclear Fuel**

| Phase   | Project Initiation  | Project Definition  | Project Execution   |   | Project Transition & Closeout   |
|---|---|---|---|---|---|
| <u>Sub-Phase</u>                              | Initiation Planning   | Conceptual Design   | Final Design  | Execution   | Transition to EM Organization - Project Completion  |
| <u>Planning Estimated duration (for CD-0)</u> |   | 2 months (after CD-0)   | 3 months (after CD-1)   | 6 months (after CD-2/3)   | 1 month (partially built into the Execution Phase)  |
| <u>Critical Decisions</u>                     | ★<br>CD-0<br>Approve Mission Need (10/17/02)  | ★<br>CD-1<br>Approve System Requirements & Alternatives   | ★<br>CD-2/3<br>Approve Acquisition Baseline/ Authorization for Implementation   |   | CD-4<br>Transition to EM Organization, Project Complete   |
| <u>Major Activities</u>                       | <ul style="list-style-type: none"> <li>✍ Select and Formally Assign Project Manager</li> <li>✍ Select Initial Integrated Project Team (IPT)</li> <li>✍ Develop Project Mission Need Statement</li> <li>✍ Develop Preliminary Project Acquisition Strategy</li> <li>✍ Provide a Preliminary Project Risk Assessment</li> </ul> | <ul style="list-style-type: none"> <li>✍ Develop the Project Acquisition Execution Plan</li> <li>✍ Develop the Project Conceptual Design Report, to include a description of: <ul style="list-style-type: none"> <li>(a) Integrated Corporate SNF Strategy</li> <li>(b) Potential baseline changes for related sites and programs</li> <li>(c) Draft project management tools</li> </ul> </li> <li>✍ Develop the Summary SNF Work Breakdown Structure</li> <li>✍ Develop structure of the SNF Integrated Schedule and BOE</li> <li>✍ Conduct a Conceptual Design Review</li> <li>✍ Update the Project Risk Assessment</li> <li>✍ Initiate development of Corporate Risk Assessment Methodology</li> </ul> | <ul style="list-style-type: none"> <li>✍ Complete the Final Design of EM's Integrated Corporate SNF Disposition Strategy</li> <li>✍ Complete development of integrated project management tools, including: <ul style="list-style-type: none"> <li>(a) Integrated Schedule</li> <li>(b) Integrated WBS map</li> <li>(c) Integrated BOE</li> <li>(d) Draft Project Execution Plan</li> </ul> </li> <li>✍ Develop the project's performance baseline for activities between CD-2/3 and CD-4</li> <li>✍ Coordinate with other EM Integrated Project Teams to integrate options analysis and recommendations</li> <li>✍ Define programmatic options/decisions and quantify potential impacts to site baselines schedules and budgets (FY03 and FY04)</li> </ul> | <ul style="list-style-type: none"> <li>✍ Execute the Project by working with related EM sites, RW and NE</li> <li>✍ Identify, develop and obtain approvals of needed adjustments to site's baselines and PMPs; identify impacts to RW and NE programmatic baselines</li> <li>✍ Using the site's baseline change approval process, get baseline changes approved for: <ul style="list-style-type: none"> <li>Richland</li> <li>Idaho</li> <li>Savannah River</li> </ul> </li> <li>✍ Revise SNF Integrated Project Baseline to reflect proposed corporate strategy</li> <li>✍ Conduct risk assessment of the SNF Integrated Project Baseline and document results</li> <li>✍ Monitor and report project's execution progress</li> </ul> | <ul style="list-style-type: none"> <li>✍ Initiate appropriate contract modifications</li> <li>✍ Develop Lessons Learned package</li> </ul>  |
| <u>Major Deliverables</u>                     | <ul style="list-style-type: none"> <li>✍ CD-0 Review package, including: <ul style="list-style-type: none"> <li>(a) Formal Letter to Acquisition Executive to Schedule CD-0</li> <li>(b) Mission Need Statement including relevant attachments</li> </ul> </li> </ul>   | <ul style="list-style-type: none"> <li>✍ CD-1 Review package, including: <ul style="list-style-type: none"> <li>(a) Conceptual Design Report</li> <li>(b) Results of the Conceptual Design Review</li> <li>(c) Final Acquisition Strategy</li> <li>(d) Revised Baseline for activities between CD-1 and CD-2/3</li> <li>(e) Project Risks</li> <li>(f) Project Interfaces Update</li> <li>(g) Project Execution Plan</li> </ul> </li> </ul>   | <ul style="list-style-type: none"> <li>✍ CD-2/3 Review package, including: <ul style="list-style-type: none"> <li>(a) Final Design of EM's Integrated Corporate SNF Disposition Strategy</li> <li>(b) Identification of the necessary baseline changes at EM sites to support the Corporate SNF Disposition Strategy</li> <li>(c) Project Management Plan for executing and monitoring project status</li> </ul> </li> </ul>  | <ul style="list-style-type: none"> <li>✍ Integrated SNF Project Baseline</li> <li>✍ Integrated SNF Project Execution Plan</li> <li>✍ Integrated SNF Project Risk Management Plan</li> <li>✍ EM or DOE Directive on SNF Disposition</li> <li>✍ Revised "Integrated Acceptance Schedule"</li> </ul>   | <ul style="list-style-type: none"> <li>✍ CD-4 Review package, including: <ul style="list-style-type: none"> <li>(a) Request for Approval of Project Complete</li> </ul> </li> </ul> |
|   |   |   |   |   | <b>Project Overview</b>   |

# EM SNF CPT -- Analytical Subprojects

- ✍ Form of DOE SNF received at repository -- “Bare” vs. canisterization
- ✍ Dry storage project at INEEL
- ✍ Treatment of aluminum-based SNF
- ✍ EM storage locations
  - ✍ “Regionalization”
- ✍ Treatment of sodium-bearing SNF
- ✍ Transportation
- ✍ Security
- ✍ MCO transportability
- ✍ SNF Classification (vs. RH TRU)
- ✍ Direct shipment from research reactors to repository
- ✍ Transfer of NSNFP from EM to RW
- ✍ Transfer of SNF management responsibilities at INEEL
- ✍ NEPA

## EM SNF CPT -- Next Steps

- ✍ Synthesize site-specific issues
- ✍ Meet with Yucca Mountain Project to evaluate repository design and impacts on disposition options
- ✍ Initiate CPT subprojects -- issues analysis
- ✍ Develop Conceptual design report
  - ✍ Independent review
- ✍ Develop CD-1 Package
- ✍ Submit CD-1 to AE